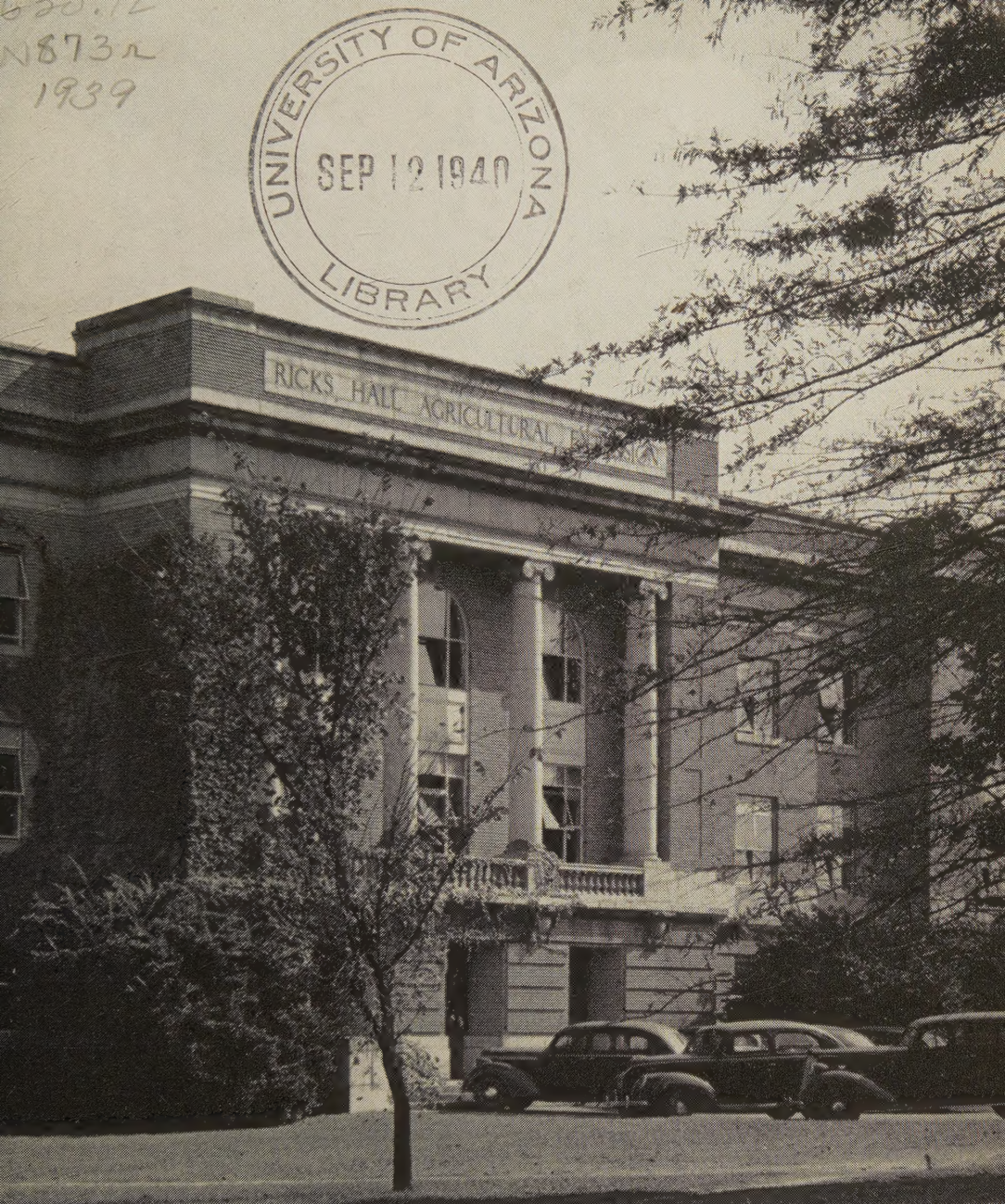
630.72
N873r
1939

UNIVERSITY OF ARIZONA
SEP 12 1940
LIBRARY



Annual Report

NORTH CAROLINA AGRICULTURAL EXTENSION SERVICE

1939

NORTH CAROLINA STATE COLLEGE OF AGRICULTURE AND ENGINEERING
OF THE
UNIVERSITY OF NORTH CAROLINA
AND
U. S. DEPARTMENT OF AGRICULTURE, CO-OPERATING
N. C. AGRICULTURAL EXTENSION SERVICE
I. O. SCHAUB, DIRECTOR
STATE COLLEGE STATION
RALEIGH

DISTRIBUTED IN FURTHERANCE OF THE ACTS OF CONGRESS OF MAY 8 AND JUNE 30, 1914

NORTH CAROLINA FARM LIFE

ANNUAL REPORT OF THE EXTENSION SERVICE FOR 1939

NORTH CAROLINA STATE COLLEGE

I. O. SCHAUB, *Director*
JOHN W. GOODMAN, *Assistant Director*

Gratifying progress crowned every activity of the North Carolina Agricultural Extension Service in the Silver Anniversary year of cooperative farm and home demonstration work in the State and Nation. Similarly, the efforts of North Carolina farmers and farm women in 1939 were rewarded with bountiful harvests of most food, feed, and cash crops.

A good growing season; fuller understanding of local, State, National and International economic programs; a greater determination to work together; a cooperative Federal Government; and wider acceptance of Extension leadership—all these contributed to an agricultural year of satisfaction and reasonable prosperity in most quarters.

However, bumper yields of tobacco and large surpluses of other money crops combined with unsettled World conditions to make 1939 a year of momentous decisions, and left North Carolina farm people facing a future of uncertainty. Thus, the Extension Service was presented with a direct challenge to redouble its efforts in steering a safe and sane farm and home course.

Without a doubt the most serious problem of the year, and of the past decade or longer, was encountered by North Carolina agriculture when the flue-cured tobacco markets closed in September upon the outbreak of the European War and the withdrawal of British buyers from the auction centers. The personnel of the Extension Service in the affected areas concentrated their efforts to explaining a proposal of the U. S. Department of Agriculture to make possible the re-opening of the warehouses through a resumption of the normal purchases of the British tobacco interests. This was hinged upon agreement of the growers to restrict production and approve marketing quotas for 1940.

County Extension agents made 201,563 visits to 104,308 different farms and homes in 1939, as compared with 179,223 visits to 89,515 places in 1938, showing that agents found relief from the arduous office duties in connection with the AAA and other Federal programs.

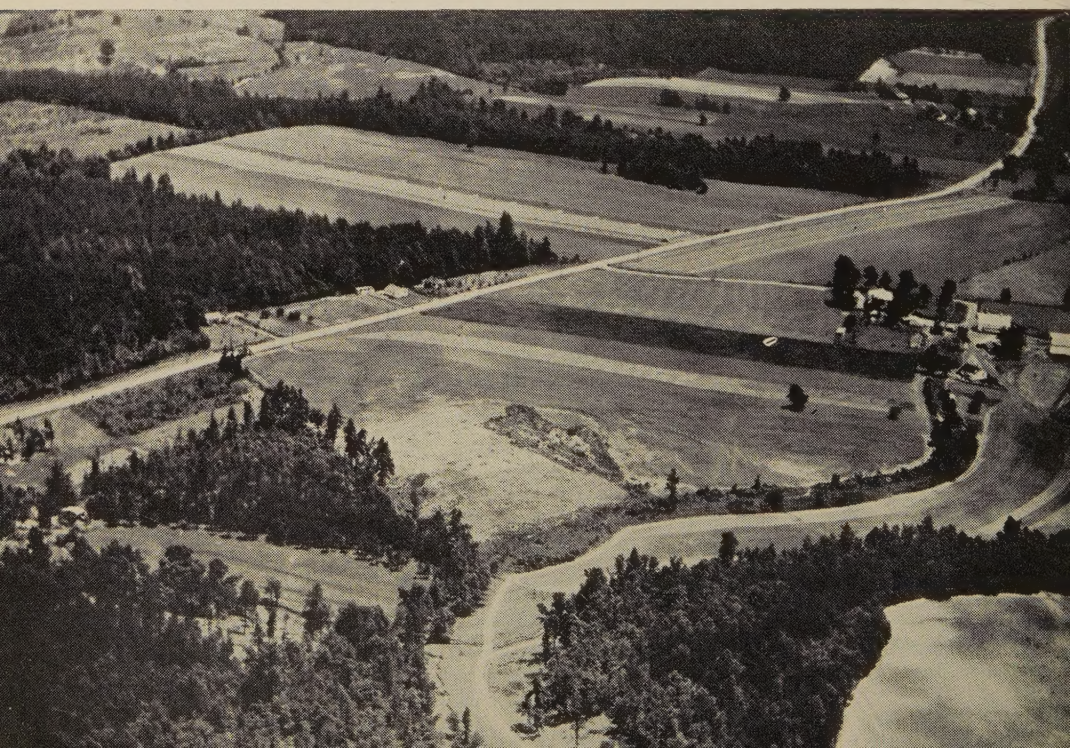
Farmers solved their immediate problem and paved the way for adjustment of supplies in line with demand by almost unanimously approving a 20 percent reduction in allotments and endorsing marketing quotas for 1940.

Also, the crisis had the effect of impressing upon bankers, merchants, and other such business and professional people that the farmers' problems are basically their own. These groups rallied to the support of the best interests of the farmers, and a better understanding

TOP LEFT: *Soil erosion is one of the biggest problems being attacked by the Extension Service, surveys showing that more than five and one-half million acres of North Carolina farm land have lost over 25 percent of the top soil, and more than one million of these acres have been abandoned.*

CENTER LEFT: *Lime was one of the reasons for the gratifying corn yields in demonstration projects in 1939, the average for the 8,128 acres in adult demonstrations being 40.3 bushels, and the average for the 2,541 acres in 4-H projects being 43.1 bushels. The State average is about 19.5 bushels per acre.*

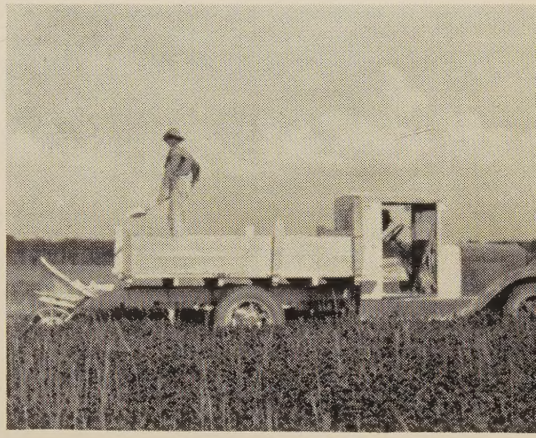
BOTTOM: *Strip-cropping as a soil conservation practice was used on 40,842 acres by 3,301 farmers.*



should work to the advantage of agriculture in the years to come.

PERSONNEL

While farm people more completely responded to the Extension Service program in 1939, the organization, itself, was better equipped to serve them. Every one of the 100 counties in the State continued to be organized in farm demonstration work. Two new counties appropriated funds for white assistant farm agents, and three new counties



TOP RIGHT: *Crotalaria is a new green manure crop recommended for the sandy lands of the State. Green manure crops were turned under on 493,347 acres by 75,577 farmers.*

CENTER RIGHT: *North Carolina farmers applied 195,040 tons of lime during the past season, of which 106,547 tons were obtained through the AAA grant-of-aid plan. Much of this ground limestone was applied to land planted to clovers, as this farmer is doing.*

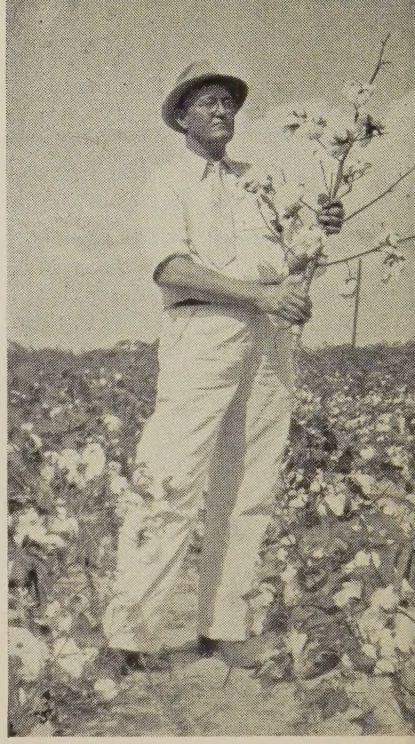
BOTTOM: *Complete terracing systems, including outlets and contour cultivation, were established on 68,173 acres by 5,247 farmers. In addition, 11,484 farmers controlled erosion on 170,127 acres by growing crops on contour.*

employed Negro farm agents. This brought the staff of white farm demonstration agents to 100 county agents and 80 assistants, and the Negro staff to 33 farm agents.

Seven new counties employed white home demonstration agents, and one county withdrew its appropriation, making 88 counties organized in home demonstration work at the end of the report year. In addition, five counties added a white assistant home agent and three new counties were organized in Negro home demonstration work. Thus, the staff of home agents numbered 88 white county agents, 10 white assistant agents, and 18 Negro agents at the end of the report year.

RESULTS

Through the 329 agents and 78 subject matter specialists and administrators, the Extension program influenced 255,127 of the 300,967 farm families, and 31,775 other families, in the State in 1939. Definite changes in practices resulted from the demonstration program on 222,800 farms, in 64,859 farm homes, and in 12,410 other homes.



Improved cotton was grown by 3,358 farmers on 47,477 acres in 69 one-variety communities, organized by Extension representatives in 24 counties. The growers had the cooperation of 95 ginners who sent samples of 10,000 bales to the State classing and grading laboratory. Sixty percent of the one-variety cotton graded middling or above, and 95 percent classed one inch or better in staple length.

Especially encouraging was the progress made in the home demonstration program. In 1,236 Home Demonstration Clubs in 89 counties there was a membership of 31,823 white women—a gain in club members of 1,355 over the previous year. Thus, the home demonstration agents reached 70,300 rural women and girls in monthly meetings.

Through the history of Extension work, there has been a rotation of home demonstration projects from the planting and growing of gardens, conservation of food and poultry production; to food preparation, nutrition, clothing for the family, beautification of home grounds, and making the home more convenient, comfortable and livable; on through house furnishings and home management, involving saving of time, money, and human power; to child development and family relationships. The 1939 trend was the same, and the rotation will continue in a measure for a long time to come.

From many standpoints, 1939 was the best year in history for 4-H Club work. The combined enrollment for the State, including white and Negro 4-H members, shows 12,686 white boys, 23,320 white girls, 5,154 Negro boys, and 7,906 Negro girls, for a total of 49,060. Sixty-five and six-tenths percent completed their projects. The enrollment over 1938 increased by 3,020—2,751 white boys and girls and 269 Negro youths.

There were also 1,749 Service Club, or Older Youth, members enrolled, as compared with 1,365 for the previous year.

The Negro farm and home demonstration program also made substantial progress, with 11,826, or 27 percent, of the 40,590 Negro farms in the 33-county Extension territory visited, and 20,946 Negro families influenced by the program. Definite changes in practices resulted on 14,648 farms.

Negro farm agents arranged 1,005 result demonstrations, as follows: Gardens, 2,451; legume, 1,584; corn, 895; potatoes, 292; tobacco, 214; cotton, 203; small grain, 108; and other, 204.

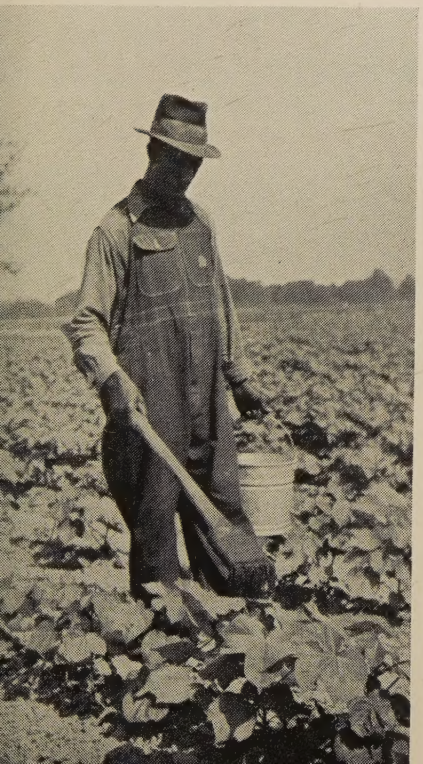
There were 284 Negro Home Demonstration Clubs with a membership of 6,188 women and they followed the same project system, fundamentally, as the white clubs.

Voluntary project leaders and committee members assisted materially in forwarding all phases of the Extension program. Agents reported that 5,708 men and 9,502 women did unpaid work in connection with the adult program, and 752 men and 558 older club boys, and 1,231 women and 652 older club girls, helped with the 4-H Club program.

NATIONAL FARM PROGRAM

The cash income of North Carolina farmers rose $1,102,000 over the previous year—from $235,903,000 in 1938 to $237,005,000 in 1939. However, the income from crops, livestock and livestock products dropped from $219,379,000 in 1938 to $217,113,000 in 1939. The increase in cash income came from $3,368,000 more in Government payments; $19,892,000 in 1939 as compared with $16,524,000 in 1938.

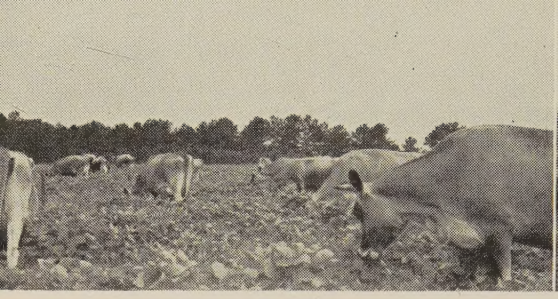
Boll weevil damage to the State's 1939 cotton crop was estimated at 15 to 17 percent, but the 14,616 farmers who used the new 1-1-1 pre-square mopping treatment or followed other good boll weevil control measures obtained excellent results and increased yields.

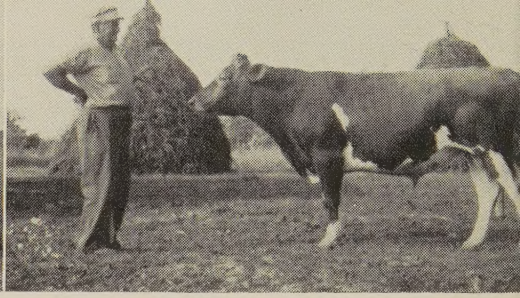


That represents the cash value of the National (Triple-A) Farm Program to farmers of the State, but there were far greater returns in human and soil conservation, and in prices stabilized. Charged with the educational work of the program, county agents were eminently successful in increasing participation in the soil building phases of the program, and in instructing county and community AAA committeemen who were the administrative leaders of the program.

The 268,093 North Carolina farmers who participated in the 1939 program earned 78.1 percent of their maximum soil building payments, losing $657,478 by failing to attain their complete goals. However, the percentage of payments earned was higher than the 73.9 percent earned in 1938.

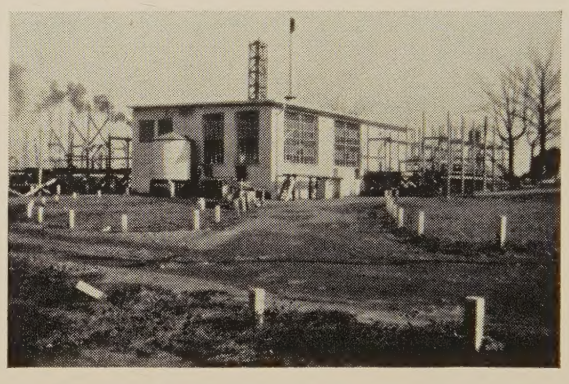
Use of ground limestone and superphosphate and planting of forest trees





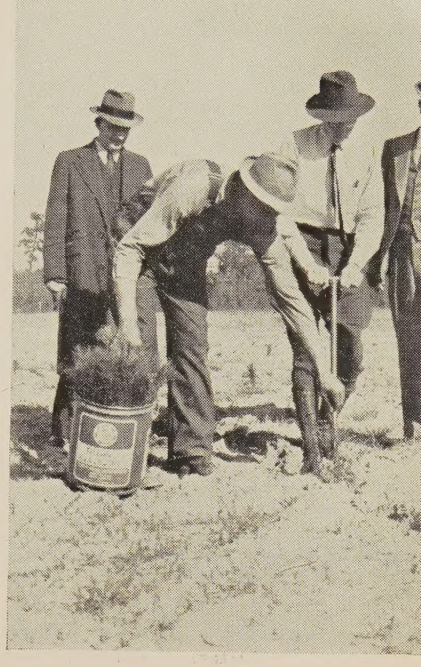
Adequate feed and better breeding are foundation stones of the Extension dairy program. Temporary grazing of soybeans, as shown on the left above, was one phase of the pasture program stressed in 1939, with 965 demonstrations comprising 7,768 acres being conducted by agents and dairy specialists. Extension workers also placed 195 pure-bred dairy bulls, such as the one pictured appropriately before the hay stacks on the right above. Also, assistance was rendered in five sales at which 10 bulls and 88 females were sold for $13, 899. Eleven herd sires were proven and 569 unprofitable cows were culled from herds through the Dairy Herd Improvement Association cow-testing program.

Here is pictured construction work on a $350,000 milk condensery in Piedmont North Carolina by a company which established two milk receiving stations in the State in 1939, and made plans to open the condensery and establish another milk receiving station in 1940. This marked the major development of the year in the field of dairy manufacturing, and, together with the expansion of several of the other 118 dairy manufacturing plants in the State, provided new markets for dairy products. The Extension Service figured prominently in this dairy development, and assisted in organizing 40 new milk and cream routes on which there are 900 patrons.



Cows such as those below are among the 6,228 animals on test in the 10 Dairy Herd Improvement Associations directed by the Extension dairy office. The average production of all association cows in 1939 was 6,822 pounds of milk and 298 pounds of butterfat, as compared with the State average of 3,800 pounds of milk and 165 pounds of butterfat.

Farmers obtained 2,033,555 forest tree seedlings during the year through the Extension Service and planted them with Extension guidance. In addition, 24,867 black walnut seedlings were set out by 4-H Club members and 15,640 by adults. Other forestry projects stressed included timber stand improvement, fire protection, erosion control, timber scaling, and marketing.



were soil building practices which increased over the previous year. Payments were earned in 1939 for applying 143,031 tons of lime as compared with 87,710 tons in 1938, and for applying the equivalent of 11,261 tons of 16 percent superphosphate as compared with 5,710 tons in 1938. Trees were planted on 1,576 acres in 1939; on 1,150 acres in 1938.

Other major practices carried out during the past year were: Seeding of 832,011 acres of legumes and grasses, including 92,493 acres of winter legumes; turning under or leaving on the land 1,368,235 acres of green manure crops; improving timber stands on 2,113 acres; and building 12,151,000 feet of terraces.

Seventy-eight percent of the 8,000,000 acres of open cultivated land in the State was in the program in 1939, this figure being reduced from the 82.7 percent of the cropland in the program in 1938 because marketing quotas were not in effect on tobacco.

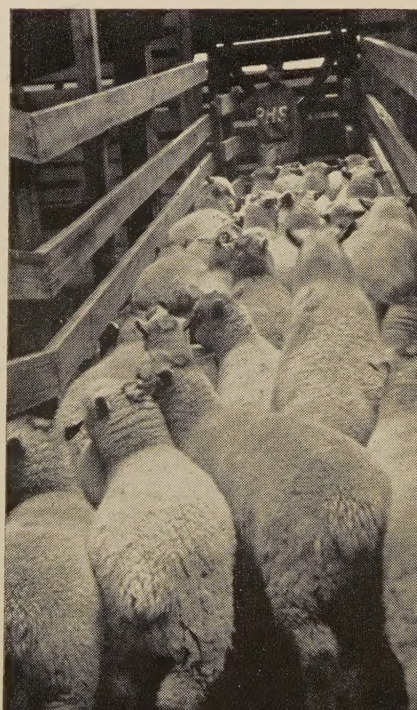
However, the referendum on flue-cured quotas for 1940, conducted on October 5, resulted in a favorable vote of 91 percent in North Carolina and 90 percent in the entire belt of six states. On November 21, Burley tobacco growers of the State approved quotas for 1940 by a 76.4 percent vote; the belt-wide vote was approval by a 83.3 percent margin.

Cotton quotas were in effect in 1939, and they were approved for 1940 in a referendum on December 9, just after the end of the Extension report year. The margin of approval in North Carolina was 89.8 percent; in the Nation, 91.2 percent.

PUBLICATIONS

In common with all other members of the Extension Service, workers in the Division of Publications spent a busy year in 1939, especially in view of the far-reaching and increasingly important operations of the Service, and the large number of other agencies which have arisen to make demands upon the daily and weekly press for space.

However, the regular news work of the office was continued without interruption. During the year, 339 stories of 107,210 copies were sent out to weekly papers and 792 stories comprising 71,857 copies were prepared and supplied to the daily press. Work was



Lamb sales was one form of the cooperative marketing program through which Extension-organized associations and groups sold $1,102,217.46 worth of livestock and wool, in addition to which individuals were assisted in selling $407,058.96 worth of meat animals and wool privately. A total of 4,373 lambs, weighing 317,950 pounds, were sold cooperatively for $26,082.61, resulting in $3,179.50 increased returns to farmers from grading and cooperative marketing

The Extension Service helped North Carolina farmers to get the most money for their record tobacco crop of 773,810,000 pounds by arranging and helping to conduct grading demonstrations attended by 3,500 farmers in the flue-cured area and 639 farmers in 17 Burley counties. There were 277 blue mold control demonstrations of the three methods of treatment recommended by the Extension Service. The 138,371 square yards of plant beds fumigated or sprayed was double the plant bed space treated in 1938. The general State average yield of tobacco was 949 pounds; in the 1,469 acres of adult demonstrations, the average yield per acre was 1,018 pounds.

continued with the farm pages of the leading dailies of the State, supplying feature articles and county agent material for publication each Monday. This continues to be one of the most satisfactory parts of the news work from the standpoint of results secured.

Another feature of the work in 1939 was in preparing the bulk of the agricultural material for at least ten papers which issued special editions prior to the opening of the flue-cured tobacco markets, two papers which issued special editions for the Burley tobacco growers, three papers which issued historical editions, another paper which published a special farm edition, and in supplying regular articles for the leading farm journals of the Southeast.

The radio extension activities continued to grow during the year as two new stations were opened in the State, and a previously established station began carrying a daily farm program for the first time. All three asked for the Carolina Farm Features syndicate service, which is now being sent daily to 12 stations. A daily personal appearance program is presented over Station WPTF, Raleigh.

The service work of the Publications Division, for the fiscal year, 1938-39, included the handling of 3,786 individual photographs for agents and specialists; the publication of 761,900 copies of Extension circulars, folders, reports, pamphlets, record books and manuals, and the monthly Farm News; the multilithing or mimeographing of 4,696,788 letterheads, cards, reports, special forms, letters and news stories; and the mailing of 6,711,482 copies of all publications.

LAND USE PLANNING

In January, 1939, the Extension Service assumed the administration of the Land Use Planning program, sponsored by the U. S. Department of Agriculture through its planning agency, the Bureau of Agricultural Economics.

The 1939 peanut production of 290,700,000 pounds was the second largest crop in the history of the State, and it brought farmers approximately $9,665,000. The average yield for the State was 1,140 pounds of nuts and 1,300 pounds of hay per acre; on the 285 acres in 4-H peanut projects, the average yield was 1,540 pounds of nuts and 1,652 pounds of hay per acre.

ABOVE: *Soybeans is the favorite summer legume and hay crop in most of Eastern North Carolina. Of the 556,000 acres planted in 1939, most of it interplanted, 218,000 acres were cut for hay, 177,000 acres were grazed or plowed under, and 161,000 acres were harvested for 2,012,000 bushels of beans.*

LEFT: *The small combine was largely responsible for the 3,029,801 bushels of legume and forage crop seed saved during the year by 80,823 farmers.*

BELOW: *Lespedeza replaced cotton in 1939 as the second largest crop in the State from a standpoint of acreage. Of the 911,000 acres planted to this legume, part was harvested to contribute to one of the largest hay crops in the history of the State, and the remainder was turned under for soil improvement.*

TOP LEFT: *Poultry disease and parasite control work included assistance to 381 farmers in vaccinating 99,578 birds against fowl pox, in treating 70,711 birds for other diseases on 702 farms, in treating 30,388 birds in 327 flocks for worms, and in controlling mites and lice on 51,742 birds on 400 farms. This is a part of the poultry improvement program of the Extension Service, which resulted in demonstration flock hens laying an average of 108 eggs per year, as compared with the State average of 86 eggs per bird.*

CENTER LEFT: *In 1939 there were 14,456,119 chicks hatched commercially in the State as compared with a commercial hatch of only four million chicks ten years ago, in 1929. Many of the 1939 chicks were raised with home-made electric brooders, combined with electrically - warmed water fountains, such as the unit illustrated here.*

BOTTOM: *The largest turkey crop in the history of the State was grown in 1939, and 28,933 pounds of turkeys was included in the $1,322,182.22 worth of poultry and eggs marketed cooperatively through Extension-sponsored organizations.*

Land Use Planning carries its own definition—systematically studying present land use areas within a state, county or township, and then by utilizing the knowledge and best judgment of farmers in the area, setting forth plans and possibilities for the maintenance and improvement of such areas.

The purpose of the program is to correlate all agricultural and related programs; to stimulate collective thinking on the part of farm people and encourage them to make use of facilities that are available from the Land Grant Colleges and from the U. S. Department of Agriculture; to assist farm people in supplying factual materials that should be used as a basis for community and county land use planning for the benefit of agriculture, and to develop state and county programs looking to more effective land use.

Work on all three phases of the program—mapping, classification, and recommendations—was done during the report year in five counties, and in one of these counties a unified program was set up, ready for action by the agri-

RIGHT: *A new treatment for peach tree borers, ethylene dichloride emulsion, was introduced to orchardists in 1939 by the Extension Service, and 604 peach growers saw demonstrations of the treatment in 52 counties. Most of them started using the new treatment to control the most serious insect enemy of the peach tree.*

BELOW: *One way by which the demonstration program was carried to the farm people was through the 526 farm and home tours conducted in 1939, with a total attendance of 19,905 persons.*

LEFT: *The year was a good one for beekeepers in some sections; a poor year in other sections. But the Extension program proved, among other things, that on the basis of the 166 adult and 67 Four-H Club demonstration apiaries, it is possible to raise the income per colony of bees an average of $4.37.*

RIGHT: *The Extension swine program for the year included the placing of pure-bred breeding stock—farmers were assisted in obtaining 1,895 pure-bred boars and females; swine sanitation—5,593 farmers followed disease and parasite control recommendations which called for the construction of farrowing houses such as these; cooperative marketing—$814, 133.62 net was received for 63,915 hogs sold through 14 farmer-operated mutuals organized by the Extension Service*

cultural and related agencies. In addition, mapping and classification was completed in five other counties, and 219 preliminary educational meetings were held in 15 counties with attendance of 4,238 men and 999 women.

A preliminary report on Caswell, the unified county, was adopted by the State Land Use Planning Commitee, composed of 11 farmers, 5 farm women, and 12 agency representatives. The farmer membership of the committee is divided between 11 types-of-farming areas in the State.

A research project in connection with the Land Use Planning program also was set up during the year, to be confined until June 30, 1940 to Caswell County. Studies are being made of land capabilities, farm population, land tenure, farm organization and management, and farm markets.

In all this work the Extension Service is the administering agency, working in cooperation with the B.A.E. and other groups.

SOIL CONSERVATION DISTRICTS

Four Soil Conservation Districts were set up in 1939 under the direction of the Extension Service, to add to six previously established districts, all of which were enlarged during the past year. The ten districts now in operation comprise 31 counties and a total acreage of 9,781,040 acres. There are 106,758 farms in the districts, and agents and subject matter specialists are assisting the district supervisors and technical men of the Soil Conservation Service in working out a broad program of erosion control and better land use.

To accomplish the educational work in connection with the establishment of the four new areas, and the enlargement of the six other districts in 1939, the Extension Service conducted 476 meetings, hearings and conferences. Farm agents in

OPPOSITE PAGE: *Home gardens were grown in 1939 on 183,541 farms, with 48,968 of these families having year-round gardens. Twelve thousand, five hundred families filled a canned foods budget.*

30 counties reported direct assistance on 13,796 farms in connection with the Soil Conservation District program in 1939. They devoted 682 days of their time to this work, and enlisted the support of 370 voluntary local leaders or committeemen for activities in 544 communities.

EXTENSION—TVA COOPERATION

Since 1935 the Extension Service has cooperated with the Tennessee Valley Authority in a most worthwhile farm demonstration program, concentrated in the 15 Western North Carolina counties within the TVA watershed. There were last year 3,626 farmers in the State cooperating in this program, and receiving assistance in the organization and operation of their farms from the standpoint of efficiency and greatest continuous profit.

In the 15-county TVA watershed area there were 1,000 unit demonstration farms and 1,800 area demonstration farms in 1939. Outside of the watershed area, there were 826 unit demonstration farms. The area demonstration farms are in watersheds where the entire community cooperates to control erosion and improve land use.

In 1939 the TVA made available 1,388 tons of triple superphosphate and 379 tons of calcium-meta phosphate to the 2,800 farms within the watershed area, and 510 tons of triple superphosphate and 133 tons of calcium-meta phosphate to the 826 unit demonstration farms outside the watershed area. This fertilizing material is given to the demonstration farmers upon payment of freight and handling charges providing they conduct their operations on a recommended basis and keep records of progress.

TOP LEFT: *During the year 39,777 farm families made improvements to their home grounds, and 2,255 public grounds were beautified as the result of the Extension Home Beautification program, which included 447 demonstration projects and 2,830 method demonstrations.*

TOP RIGHT: *The 44 Home Demonstration Curb Markets sold $377,947.53 worth of products, with 2,112 farm women selling regularly. In addition, club members sold $371,978.49 worth of cakes, pies, vegetables, meats, etc. directly to merchants, hotels, institutions and individuals for a total of $749,926.02 supplementary income from the Home Demonstration marketing program.*

CENTER LEFT: *Chair caning was one phase of the Extension house furnishings program through which farm people saved $40,396.75 by learning to do their own repair work, and to better select materials.*

BOTTOM LEFT: *Nearly five million containers of fruits, vegetables, meats, jam, jellies, and other products, valued at $733,857.76, were canned according to recommended methods by Home Demonstration and 4-H Club members of 30,616 farm families.*

BOTTOM RIGHT: *Extension activities in home management and house furnishings resulted in 6,188 kitchens being rearranged and improved.*

Although activities centered around the Extension-TVA program, some phase of Farm Management work was conducted in practically every county of the State. In November, 1939, a total of 106 Farm and Home Demonstrations were being conducted, and plans had been made to begin 20 others early in 1940. During the year 1,148 record books were submitted to, and analyzed by, the Extension Farm Management office.

These three pictures show the result of crop rotation. At the top is wheat after sweet clover, in the center is wheat after red clover, and the bottom picture shows wheat after cotton. A total of 18,253 farmers followed Extension recommendations and rotated crops on 657,517 acres in 1939.

MARKETING

Rural people of the State sold $4,624,252.32 worth of farm and home products in 1939 through cooperative markets organized and assisted by Extension representatives. In addition, farm and home agents aided in private sales of $10,862,627 worth of products.

An example of the value of the Extension marketing program is contained in a summary of the activities of the 14 mutual livestock associations which during the year netted 12,000 swine growers $814,133.62 for 63,915 hogs weighing 12,475,662 pounds. Total expenses, including windage and reductions for soft and oily hogs, was only 4.53 percent.

ABOVE: *Scores of farmers were assisted in obtaining pure-bred jacks and stallions, and high grade or pure-bred females to breed and improve workstock on their farms. Disease control recommendations were followed by 470 owners of workstock.*

BELOW: *Cotton farmers increased their income in 1939 by $5,892,000 by planting 600,000 acres of cotton with treated seed. This practice, encouraged by the Extension Service since 1936, has resulted in an average net income of $9.82 per acre in the value of the cotton crop, or $11,830,000 to growers in four years.*

Since the cooperative livestock markets were organized, they have been able to reduce the spread, or difference, between farm prices and prices paid at the Eastern market centers, by an average of 8.4 cents per 100 pounds. This meant an increase in income of $104,795.56 to the shippers of the 63,915 hogs handled by the mutuals in 1939. The reduction of the spread was accomplished by improvement of grading and methods of shipping. In addition, through an agreement with certain buyers, farm agents guaranteed the firmness of pork which commanded a total "bonus" of $33,858.95 during the year.

CROP IMPROVEMENT

Through the North Carolina Crop Improvement Association, with which the Extension Service cooperates in a certified seed program, 160,267 bushels of field crop seed, 1,651 pounds of tobacco seed, and 165,000 strawberry plants were certified for 296 growers. The field crop seed included 50,625 bushels of cotton, 39,300 bushels of oats, 19,825 bushels of sweet potatoes, 18,860 bushels of wheat, 14,550 bushels of corn, 5,965 bushels of barley, 5,720 bushels of rye, 2,643 bushels of soybeans, 1,586 bushels of lespedeza, and 1,065 bushels of Irish potatoes.

RURAL ELECTRIFICATION

During 1939 there were approximately 6,000 miles of new rural electric lines constructed to serve more than 25,000 customers, which means that 28.4 percent of the farms in North Carolina now have electricity. The Extension Service has concerned itself not only with organizing rural electrification cooperatives, but with wiring schools, demonstrations of electric equipment, the promotion of electrified dairy and poultry farms, and in conducting result demonstrations of electric hotbeds, tobacco curing, sweet potato curing, and soil sterilization.

TERRACING

For the past five years the Extension Service has organized and directed Soil Conservation Associations in the Piedmont section to meet the problem of erosion wherein 29 percent of the cultivated area of 2,329,906 acres in 31 counties has been abandoned. During 1939 there were 41 of these county associations, most of them incorporated under the Mutual Exchange Act of North Carolina.

The 41 associations operated 48 terracing units, each of which consisted of a 40 horsepower crawler-type tractor and a two-wheel terracer. In addition, eight sub-soilers and four heavy discs are owned by some of the associations. The approximate cost of this equipment is $213,000, and, with few exceptions, all equipment is being operated on a self-liquidating basis.

It was this terracing program which largely accounted for the 68,173 acres on 5,247 farms which were completely terraced with outlets and contour cultivation in 1939.

The average cost per acre of terracing by the association equipment is $1.94, and since the program was started in 1935, the cooperative units have built more than 10,000 miles of terraces on over 200,000 acres.

The heavy terracing units are placed only in counties to which they are adapted. They are not practical in some counties of the upper coastal plain and the lower mountain region. In these areas, however, the homemade V-type drags and light commercial terracers are used to advantage. No terracing is needed in the lower coastal plain, and in the steep mountain section it is not practicable.

Demonstrations of the construction of V-drags were held last year in many sections for the reason that this inexpensive, homemade equipment is recommended for terrace maintenance,

ABOVE: *For the fourth consecutive year corn-growing contests were conducted among Negro farmers, with 895 projects comprising 2,362 acres, for an average yield of 48.3 bushels of corn per acre. Eleven thousand and thirty Negro 4-H members averaged 37.6 bushels of corn per acre in their one-acre projects.*

BELOW: *Orchard pruning and spraying were among the various improved practices taught in the 29,773 method demonstrations conducted by agents and subject matter specialists in 1939, with 592,267 persons attending such meetings.*

4-H CLUBS IN EVERY COUNTY OF NORTH CAROLINA
4-H CLUB PROGRAMS
ARE DESIGNED

a pressing problem now that the terrace construction program has progressed so rapidly.

LIVESTOCK AND LEGUMES

One of the encouraging features of 1939 from an agricultural standpoint was the increasing interest in livestock, especially beef cattle, and legumes. More good bulls were added to existing herds of beef cattle, and more new breeding herds were established than ever before in the history of the State. Likewise, North Carolina grew more legumes in 1939 than in any year in the past, the acreage being more than double what it was 20 years ago.

Especially gratifying was the fact that the increases in numbers of beef cattle was greater in the coastal plain and tidewater sections of the State than elsewhere, because in these areas large acreages of native grasses and many tons of farm roughages are not being utilized.

Placements of pure-bred beef bulls in 1939 numbered 351, and 936 farmers were assisted in obtaining pure-bred and high grade females of the beef breeds. About 2,000 head of cattle were fattened for the market during the year, and about the same number were placed in feed lots in the fall of 1939 to be fattened for the winter and spring markets of 1940. Records were secured on 768 head of cattle which showed an average profit of $28.54 each, including manure.

North Carolina grew 2,229,000 acres of legumes in 1939, an increase of 266,000 acres over the 1,963,000 acres of legumes grown in 1938. Lespedeza, which was introduced to the State by an Extension agent in 1914, became the second crop in acreage in the State in 1939. It replaced cotton in this respect, and with 911,000 acres, was second only to corn which was planted on 2,466,000 acres. The 26,650,000 pounds of lespedeza seed produced in 1939 placed North

OPPOSITE PAGE—TOP: *There were 49,060 farm boys and girls enrolled in 1,529 Four-H Clubs during the year, of whom 36,006 were white youths. In addition, there were 51 Older Youth, or Service Club, organizations with 1,749 members.*

CENTER LEFT: *The 1,658 girls who conducted 4-H Room Improvement projects in 1939 constructed or refinished 3,513 articles in 1,152 rooms.*

CENTER RIGHT: *Pig-raising was the most popular 4-H livestock project of the year, with 2,850 members enrolled in handling 4,176 animals valued at $83,520.*

BOTTOM: *Clothing was the favorite homemaking project of 4-H girls and 12,853 carried this project to learn about improved workmanship, care, style and buying, as did 16,125 adults in 622 Home Demonstration Clubs which had clothing as a major or minor study.*

THIS PAGE: *Sheep production was one of the 4-H livestock projects through which farm boys and girls handled $226,180 worth of animals during the year. The crops projects of 4-H Clubbers had an estimated value of $208,431.*

Carolina production second in the Nation, being exceeded only by the 32,400,000 pounds produced in Missouri.

SPECIAL EVENTS

The Extension Service attracted 2,688 men, women, boys and girls to the campus of N. C. State College during the year by conducting its annual Farm and Home Week, 4-H Short Course, Older Youth Conference, Tobacco Short Course, and 4-H Dress Review.

Also, the Extension program was carried to thousands of others through farm tours, district short courses, camps and exhibits, and participation in fairs and field days.

Farm and Home Week, the banner period of the year on the calendar of many farmers and rural homemakers, was attended by 1,071 women and 519 men, a total of 1,590 persons. The State 4-H Short Course brought 881 boys and girls and 99 farm and home agents to the college campus. Older Youth Conference attracted 130 young men and young women; the Tobacco Short Course was attended by 30 adult farmers; and 57 county champions attended the State 4-H Dress Review. They were the finalists of 893 girls who competed in county contests.

More than 500 Farm and Home tours were conducted by agents to exhibit demonstrations to 19,905 persons who participated in the tours. Eighty counties held 4-H encampments, with 4,693 attending. A series of 12 one-day district poultry short courses attracted 2,222 persons.

The Extension Service had a prominent part in the N. C. State Fair at Raleigh, the Western Carolina Fat Stock Show at Asheville, the Eastern Carolina Fat Stock Show at Rocky Mount, and the annual meeting and seed exposition of the North Carolina Crop Improvement Association, also at Rocky Mount.

Two hundred and fifty 4-H Club members conducted baby beef projects, raising steers which sold for $16, 350. Auction sales followed the show ring competition at the State Fair, the Western Carolina Fat Stock Show at Asheville, and the Eastern Carolina Fat Stock Show at Rocky Mount, enabling the club members to dispose of their calves at premium prices.

Several high honors were won by North Carolina 4-H Club members who traveled to other states for competition in National events. A 4-H dairy demonstration team won the highest honors possible at the National Dairy Show in California, and club members and teams also competed successfully at the World's Poultry Congress and the National 4-H Club Congress.

Agents reported holding 297 Home Demonstration and 4-H Club achievement days, attended by 54,305 persons.

A CHART OF PROGRESS

	1938	*1939*
No. farm and home visits made in conducting Extension work	179,223	201,563
No. of different farms and homes visited	89,515	104,308
No. method demonstration meetings conducted by Extension workers	27,148	29,773
Attendance at method demonstration meetings	579,241	592,267
No. meetings at result demonstrations	3,767	4,084
Attendance at result demonstration meetings	70,987	72,294
No. Home Demonstration Clubs	1,419	1,520
No. members of Home Demonstration Clubs	36,108	38,011
No. 4-H Clubs	1,516	1,529
No. members of 4-H Clubs	46,040	49,066
No. farms using lime	19,347	24,485
No. tons of lime applied	144,396	195,040
No. bushels of legume and forage crop seed saved	2,246,595	3,029,801
No. acres of legumes grown	1,963,000	2,229,000
No. acres of lespedeza grown	802,000	911,000
No. acres of green manure crops turned under	362,762	493,347
No. acres on which cover crops were grown	649,987	685,045
No. farms on which complete terrace systems built	5,047	5,247
No. forest tree seedlings handled through Extension forester's office	1,603,575	2,033,555
No. individuals assisted with marketing problems	56,959	64,229
No. farms applying recommended fertilizers	31,492	34,959
No. tons of recommended fertilizer applied	107,527	233,145
No. year-round home gardens	47,686	48,968